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EXAMINER	
TECKLU, ISAAC TUKU	
ART UNIT	**PAPER NUMBER**
2192	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/678,870	WAIN ET AL.	
	Examiner	**Art Unit**	
	ISAAC T. TECKLU	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2008*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-36* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 37-45 have been cancelled.

2. Claims 1-36 are pending and have been examined on the merits.

3. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection. See Venter (US 20040194072 A1), new art made of record.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-7, 9-25 and 27-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Venter (US 20040194072 A1).

Per claim 1, Venter discloses a method for multi-language compilation comprising (see at least paragraph [0031] "… a multi-language compilation system…"):

discovering a first compiler component which implements a pre specified protocol and provides compilation of code in a first language(see at least paragraph [0031] "... first ...compiler component...");

discovering a second compiler component which implements said pre specified protocol and provides compilation of code in a second language (see at least paragraph [0031] "... secondary compiler component...") ; and

providing a first framework which uses said first compiler component and said second compiler component to provide multi-language compilation (see at least paragraph [0011] "... common compiler infrastructure..." and e.g. FIG. 1, CCI 130 and related text).

Per claim 2, Venter discloses the method of claim 1, further comprising:

discovering a third compiler component which implements said pre specified protocol (see at least e.g. FIG. 2, 150Mand related text); and

providing a second framework which integrates said first, second, and third compiler components to provide multi-language compilation (see at least paragraph [0011] "... common compiler infrastructure..." and e.g. FIG. 1, CCI 130 and related text).

Per claim 3, Venter discloses the method of claim 1, where said pre specified protocol comprises a discoverability interface, and where said discovering a first compiler component which implements a pre specified protocol occurs using said discoverability interface implemented in said first compiler component (see at least paragraph [0031] "... first ...compiler component..."), and said discovering a second compiler component which implements said pre specified protocol using said discoverability interface implemented in said second compiler component (see at least paragraph [0011] "… common compiler infrastructure…" and e.g. FIG. 1, CCI 130 and related text).

Per claim 4, Venter discloses the method of claim 1, where said pre specified protocol comprises a compilation time interface, and where said provision of multi-language compilation occurs using said compilation time interface implemented in said first compiler component, and said compilation time interface implemented in said second compiler component (see at least paragraph [0011] "… common compiler infrastructure…" and e.g. FIG. 1, CCI 130 and related text).

Per claim 5, Venter discloses the method of claim 4, where said compilation time interface comprises a normalized referencing scheme describing how code in other languages references code compiled by a compiler implementing said normalized referencing scheme (see at least e.g. FIG. 5, 530 and related text).

Per claim 6, Venter discloses the method of claim 4, where said compilation time interface comprises data regarding how dependency trees are to be built (see at least FIG. 3 and 4 and related text).

Per claim 7, Venter discloses the method of claim 4, where said compilation time interface comprises data regarding the order of compilation of different languages in which code to be compiled has been written (see at least FIG. 6 and 7 and related text).

Per claim 9, Venter discloses the method of claim 1, where said pre specified protocol comprises an error interface, and where said first framework further provides multi-language error handling according to information from said error interface (see at least paragraph [0045] "… perform error checking…").

Per claim 10, Venter discloses the method of claim 1, where said first framework further provides a multi-language design tool for designing code comprising code portions in said first language and code portions in said second language (see at least paragraph [0031] "… a multi-language compilation system…").

Per claim 11, Venter discloses the method of claim 10, where said pre specified protocol comprises a design time interface, and where said multi-language design tool uses said design time interface corresponding to a compiler for a given language to control designing of code in said given language (see at least paragraph [0031] "… a multi-language compilation system…").

Per claim 12, Venter discloses the method of claim 10, where said pre specified protocol comprises a background compilation time interface, and where said multi-language design tool uses background compilation time interface corresponding to a compiler for a given language to control background compilation functionality for code in said given language (see at least paragraph [0011] "… common compiler infrastructure…" and e.g. FIG. 1, CCI 130 and related text).

Per claim 13, Venter discloses a method for multi-language code editing (see at least e.g. FIG. 7, 740 and related text) comprising:

discovering a first design tool which implements a pre specified protocol and provides design assistance for code in a first language (see at least paragraph [0031] "… first …compiler component…");

discovering a second design tool which implements a pre specified protocol and provides design assistance for code in a second language (see at least paragraph [0031] "… secondary compiler component…"); and

providing a framework which integrates said first design tool and said second design tool to provide multi-language editing (see at least paragraph [0011] "… common compiler infrastructure…" and e.g. FIG. 1, CCI 130 and related text).

Per claim 14, Venter discloses a method for multi-language code editing comprising:

discovering a first compiler component which implements a pre specified protocol and provides compilation of code in a first language (see at least paragraph [0031] "… first …compiler component…");

discovering a second compiler component which implements said pre specified protocol and provides compilation of code in a second language (see at least paragraph [0031] "... secondary compiler component...");

discovering a first design tool which implements a pre specified protocol and provides design assistance for code in said first language (see at least paragraph [0031] "... first ...compiler component...");

discovering a second design tool which implements a pre specified protocol and provides design assistance for code in said second language (see at least paragraph [0031] "... secondary compiler component..."); and

providing a framework which integrates said first compiler component, said second compiler component, said first design tool, and said second design tool to provide multi-language design functionality assisting a user in writing code comprising inter-language reference requirements (see at least paragraph [0011] "... common compiler infrastructure..." and e.g. FIG. 1, CCI 130 and related text).

Per claim 15, Venter discloses a method for multi-language code editing comprising:

discovering a first compiler component which implements a pre specified protocol and provides compilation of code in a first language (see at least paragraph [0031] "... first ...compiler component...");

discovering a second compiler component which implements said pre specified protocol and provides compilation of code in a second language (see at least paragraph [0031] "... secondary compiler component...");

discovering a first design tool which implements a pre specified protocol and provides design assistance for code in said first language (see at least paragraph [0031] "… first …compiler component…");

discovering a second design tool which implements a pre specified protocol and provides design assistance for code in said second language (see at least paragraph [0031] "… secondary compiler component…"); and

providing a framework which integrates said first compiler component, said second compiler component, said first design tool, and said second design tool to provide multi-language design functionality incorporating background compilation (see at least paragraph [0011] "… common compiler infrastructure…" and e.g. FIG. 1, CCI 130 and related text).

Per claim 16, Venter discloses a method for multi-language compilation comprising: discovering at least two compiler components which each implement a pre specified protocol language (see at least paragraph [0031] "… secondary compiler component…"); and providing a framework which integrates each of said at least two compiler components to provide multi-language compilation (see at least paragraph [0011] "… common compiler infrastructure…" and e.g. FIG. 1, CCI 130 and related text).

Per claim 17, Venter discloses the method of claim 16, where said discovery of components is facilitated using a com-style protocol (see at least paragraph [0031] "… secondary compiler component…").

Per claim 18, Venter discloses the method of claim 16, where said multi-language compilation comprises multi-language compilation to a target platform specified by at compilation time (see at least paragraph [0031] "… a multi-language compilation system…").

Regarding claims 19-25, 27-30, 31, 32, 33-34, 35-36, these are computer-readable medium claims substantially paralleling the limitations in method claims 1-7, 9-12, 13, 14, 15, 16, 17-18, respectively. Venter. further discloses the use of such media (see, e.g. FIG.9) in implementing the prescribed steps, and all other limitations have been addressed as set forth above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 8 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venter (US 7,076,772 B2) in view of Alpern (US 7,107,578 b1).

Per claims 8 and 26, Venter fails to expressly disclose a debugging interface, and where said first framework further provides multi-language debugging according to information from said debugging interface. However, Alpern discloses, in a similar compiling environment a method for multiple languages to interface with a single debugger client using standard interface (col. 3:25-35, e.g. FIG. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use debugging interface to identify a location within the program at which execution should halt and enable programmer to determine the contents of computer memory at a time of execution for any instruction in or more sequences of instruction as once suggested by Alpern (col. 1:55-60).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ISAAC T. TECKLU whose telephone number is (571) 272-7957. The examiner can normally be reached on M-TH 9:300A - 8:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Isaac T Tecklu/
Examiner, Art Unit 2192

/Tuan Q. Dam/
Supervisory Patent Examiner, Art Unit 2192